



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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**NOTICE OF ALLOWANCE AND ISSUE FEE DUE**

26M17/0317

WENDEROTH LIND & PONACK  
SOUTHERN BUILDING SUITE 700  
605 FIFTEENTH STREET NW  
WASHINGTON DC 20005

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
08/572,719	12/14/95	012	HSU, A	2603 03/17/97
First Named Applicant	HAYASHINO, HIROSHI			

**TITLE OF INVENTION** METHOD OF TRANSMITTING ORTHOGONAL FREQUENCY DIVISION MULTIPLEX SIGNAL, AND TRANSMITTER AND RECEIVER EMPLOYED THEREFOR

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEES DUE	DATE DUE
2 1413-FF0101	370-206.000	K64	UTILITY	NO	\$1290.00	06/17/97

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT.**  
**PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

**HOW TO RESPOND TO THIS NOTICE:**

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as yes, verify your current SMALL ENTITY status:

A. If the status is changed, pay twice the amount of the FEE DUE shown and notify the Patent and Trademark Office of the change in status, or

B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

A. Pay FEE DUE shown above, or

B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B of this notice should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "6b" of Part B should be completed.

III. All communications regarding this application must give application number and batch number. Please direct all communication prior to issuance to Box ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/572,719	12/14/95	HAYASHINO	H 1413-FF0101

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26M1/0317

EXAMINER

HSU, A

ART UNIT	PAPER NUMBER
2603	3

DATE MAILED: 03/17/97

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks**

<b>Notice of Allowability</b>	Application No. <b>08/572,719</b>	Applicant(s) <b>HAYASHINO ET AL</b>
	Examiner <b>Alpus H. Hsu</b>	Group Art Unit <b>2603</b>

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

- This communication is responsive to \_\_\_\_\_.
- The allowed claim(s) is/are 1-12.
- The drawings filed on \_\_\_\_\_ are acceptable.
- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some\*  None of the CERTIFIED copies of the priority documents have been received.
  - received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \*Certified copies not received: \_\_\_\_\_.
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- Applicant MUST submit NEW FORMAL DRAWINGS
  - because the originally filed drawings were declared by applicant to be informal.
  - including changes required by the Notice of Draftsperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. 4.
  - including changes required by the proposed drawing correction filed on \_\_\_\_\_, which has been approved by the examiner.
  - including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

- Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

#### Attachment(s)

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s). 3
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152
- Interview Summary, PTO-413
- Examiner's Amendment/Comment
- Examiner's Comment Regarding Requirement for Deposit of Biological Material
- Examiner's Statement of Reasons for Allowance

*Alpus H. Hsu*  
**ALPUS H. HSU**  
**PRIMARY EXAMINER**  
**ART UNIT 2603**

Art Unit: 2603

1. The application having been allowed, formal drawings are required in response to this Office action.

2. The following is an examiner's statement of reasons for allowance:

The subject matter of the claims is allowable over prior art of record because all prior arts fail to teach or fairly suggest a method and apparatus for transmitting an orthogonal frequency division multiplex signal from a transmission side to a receiving side in every symbol of a prescribed length through a wire or wireless transmission path, providing at the transmitter memory means, complex multiplication means, inverse Fourier transformation means, guard interval addition means, and transmission means for complex-multiplying a carrier modulation signal group for deciding the phases and amplitudes of a plurality of carriers which are orthogonal to each other on the frequency axis by a complex signal group having a predetermined pattern which varies in phase at random.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (703) 305-4377. The examiner can normally be reached on Monday-Friday from 6:30 a.m. to 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Olms, can be reached on (703) 305-4703. The fax phone number for this Group is (703) 305-9509.

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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Alpus H. Hsu

*A.H.H.*



March 16, 1997

**ALPUS H. HSU  
PRIMARY EXAMINER  
GROUP 2600**